

REMARKS

Claims 1, and 3-15 are pending in this application. Claims 1, 3, 6-8 and 15 are amended to more distinctly claim the subject matter therein. Claim 2 has been canceled. Applicants submit that no new matter has been added by this response.

Applicants notes with appreciation that certified copies of the priority documents have been received and placed of record in the file.

Claims 1 and 15 were rejected under 35 U.S.C. § 102(e) as being anticipated by US Patent No.: 7,161,972, to Huh et al. (hereinafter as "Huh"). Claims 2-7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Huh in view of US Patent No.: 6,255,898, to Ono et al. (hereinafter as "Ono"). Applicants respectfully traverse the rejections, and requests reconsideration and allowance of these claims in view of the following arguments.

CLAIM OBJECTIONS

On page 3 of the Office Action, claims 1, 8 and 15 were objected to. Claims 1 and 15 were objected to because the Examiner's assertion that "a channel estimator adopting masking" appears to be missing the term "unit." In claim 1 the preamble was amended to recite "a channel estimator . . . adopting signal masking." In claim 15, the preamble was amended to recite "A channel estimator adopting signal masking." The amendment therefore distinguishes the "adopting" action as opposed to defining an element. Applicants request further clarification if the stated amendments to claims 1 and 15 do not correct the objection. Claim 8 is amended to recite in part ". . . a cross correlating value between a received signal and the trained sequence." Applicants

believe the amendments to claims 1, 8 and 15 corrected the informality objections, respectively, and requests that the objections be withdrawn.

REJECTIONS UNDER 35 U.S.C. § 112

On page 2 of the Office Action, claims 1 and 5 were rejected under 35 U.S.C. § 112, first paragraph, asserting a recitation of a single means claim without having another recited element of means. Claims 1 is further distinguished herein and amended to recite elements, "a CIR masking unit for removing a noise included in the CIR estimating value; a mask signal generator generating a mask signal according to the CIR estimating value; a CIR delayer matching a synchronization between the CIR estimating value and the mask signal; and a masking processor removing the noise by performing the masking so that the CIR estimating value is outputted only for a section where the mask signal exits."

Claim 15 has been amended similarly to claim 1. Accordingly, Applicants submit that amended claims 1 and 15 have corrected the single means basis for rejection, therefore it is respectfully requested that the claim rejections be removed and the claims allowed.

REJECTIONS UNDER 35 U.S.C. § 102

Claims 1 and 15 were rejected under 35 U.S.C. § 102(e) as being anticipated by Huh.

Claim 1 is directed to a channel estimator using a CIR (channel impulse response) estimating value, and adopting signal masking for removing noise included

in the CIR estimating value. Amended claim 1 recites, "a mask signal generator generating a mask signal according to the CIR estimating value; a CIR delayer matching a synchronization between the CIR estimating value and the mask signal; and a masking processor removing the noise by performing the masking so that the CIR estimating value is outputted only for a section where the mask signal exists."

Applicants respectfully submit, as the Examiner Asserted on page 4 of the Office Action, Huh does not disclose a mask signal generator, a delayer and a masking processor, as recited in claim 1. Therefore, claim 1 is allowable since Huh fails to disclose or suggest all of the limitations of claim 1.

In review of the Huh reference, column 5, lines 31-45 (relied upon by the Office Action):

"The receiver provides the received signal to a channel estimator 219 and a channel equalizer 220 through an RRC filter 218. The channel estimator 219 performs channel estimation on a channel impulse response of the multipath fading channel, and provides the channel-estimated results to the channel equalizer 220. The channel equalizer 220 compensates for multipath channel fading of the received signal using the estimated channel impulse response, thereby to remove multipath interference from the received signal. The signal output from the channel equalizer 220 is provided to a single-user detector 222. The single-user detector 222 despreads the signal output from the channel equalizer 220 with an i.sup.th user's spreading code and a scrambling code output from a multiplier 221, thereby to detect an i.sup.th user's data sequence."
(emphasis added)

Applicants assume *arguendo* that Huh, as indicated in the Office Action, discloses a "channel estimator." However, even if this is correct, Huh is deficient as an anticipating reference.

Applicant respectfully submit that Huh fails to disclose "a CIR masking unit for removing a noise included in the CIR estimating value" claim feature. Instead, as disclosed in the above passage, "[t]he channel estimator 219 performs channel estimation on a channel impulse response of the multipath fading channel, and provides the channel-estimated results to the channel equalizer 220." The Huh reference does not teach or suggest "a CIR masking unit" or "removing a noise included in the CIR estimating value," as recited in claim 1.

In view of the forgoing, Huh fails to teach or suggest all of the features recited in independent claim 1, and therefore claim 1 is believed to allowable.

Amended claim 15 recites similar limitations as claim 1, therefore for the reasons stated above it is believed that claim 15 is patentable.

Accordingly, Applicants request that the rejections under 35 U.S.C. § 102(e) be withdrawn, and claims 1 and 15 allowed.

REJECTIONS UNDER 35 U.S.C. § 103(a)

Claims 2-7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Huh in view of Ono.

It is respectfully noted that the Federal Circuit has provided that an Examiner must establish a case of prima facie obviousness. Otherwise the rejection is incorrect and must be overturned. As the court recently stated in In re Rijkaert, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993):

“In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a prima facie case of obviousness. Only if that burden is met, does the burden of coming forward with evidence or argument shift to the Applicants. ‘A prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art.’ If the examiner fails to establish a prima facie case, the rejection is improper and will be overturned.” (citations omitted.)

Claim 2 has been canceled by this response. On page 4 of the Office Action, in regard to claims 2-5, the Examiner asserts that “Huh does not disclose a mask signal generator, a delayer and a masking processor,” but that Ono discloses the noise elimination circuit shown in Figure. 3. Regarding claims 6 and 7, the Examiner asserts that “Ono discloses combining the signals as shown in figure 3.

Applicants respectfully submit, that the Examiner has failed to establish a prima facie case of obviousness and, therefore, independent claim 1 is allowable over the cited combination of references. Even if the cited references were combined as asserted, the invention of claim 1 would not be achieved because Ono fails to cure the deficiencies of Huh with respect to “a CIR (channel impulse response) masking unit.” Accordingly, claims 3-7 are believed to be allowable at least by virtue of their dependence from allowable claim 1.

ALLOWABLE SUBJECT MATTER

Applicants acknowledge the Examiner’s assertion that claims 8-14 would be allowable if amended to overcome the previous claim objection to claim 8. Accordingly,

claim 8 has been amended to correct the stated objection, and Applicants believe claims 8-14 are now in condition of allowance.

CONCLUSION

In view of the foregoing, it is respectfully submitted that the application and the claims are in condition for reconsideration on the merits, thus reexamination of the application is requested. The Examiner is invited to call the undersigned attorney at (213) 623-2221 should the Examiner believe a telephone interview would advance the prosecution of the application.

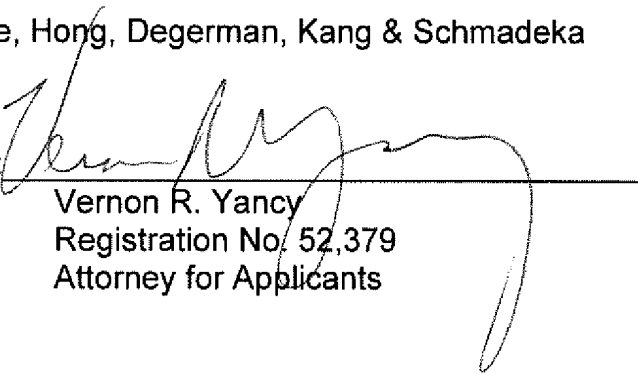
Respectfully submitted,

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